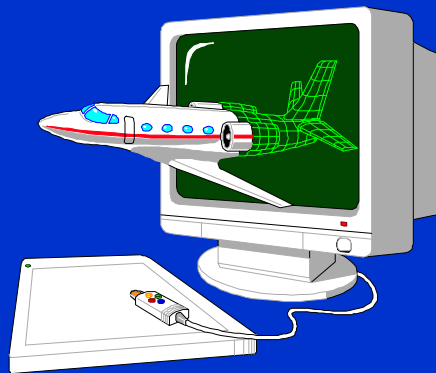




Airborne Initiatives



L. Rierson, AIR-130
Leanna.Rierson@faa.gov
May 25, 1999

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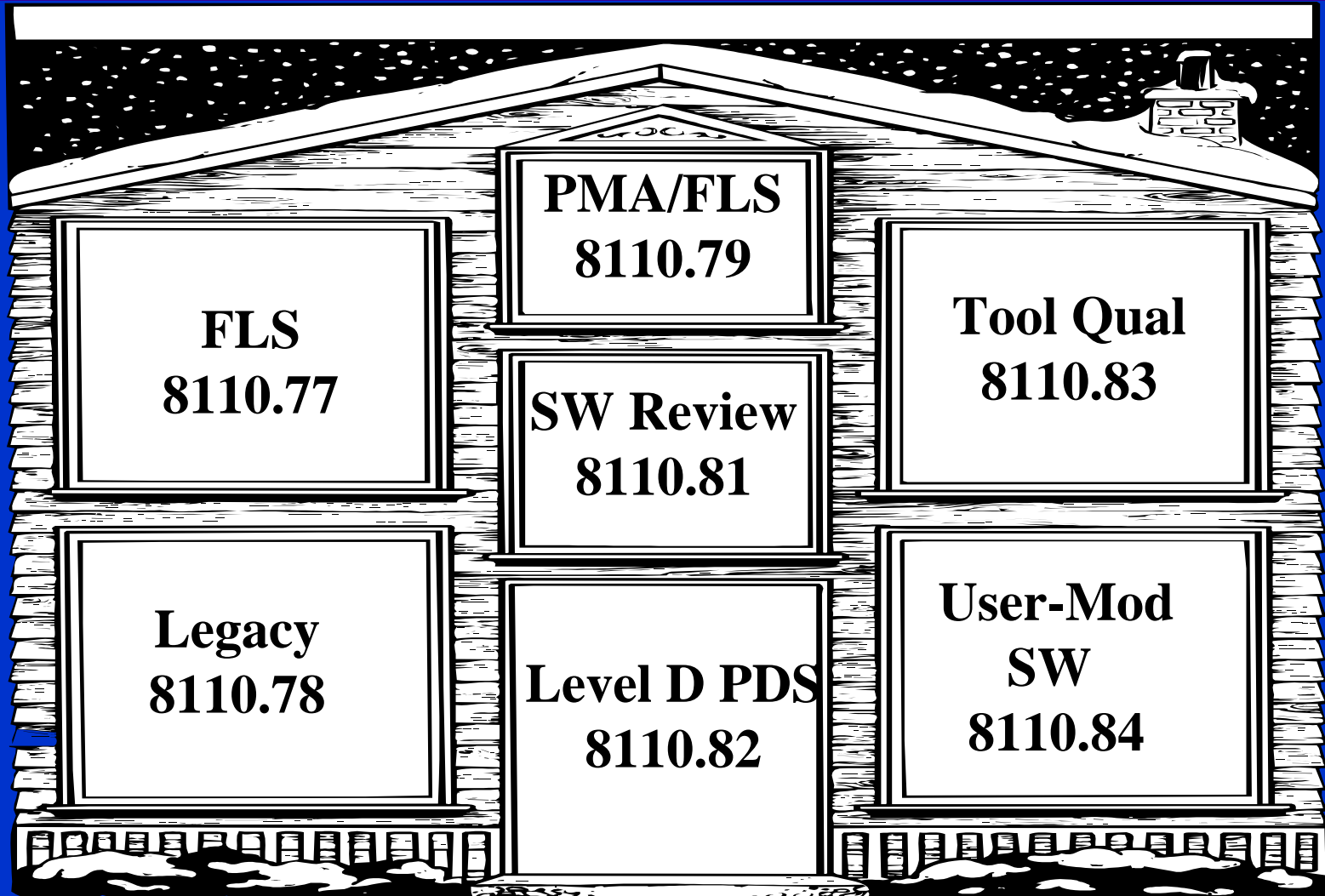
Presentation Outline

- **Product Folder**
- **Software Grand Design (SGD)**
- **SSAC Support**
- **Research Initiatives**
- **RTCA/EUROCAE Activities**
- **ReUsable Software Activities**
- **Other Activities**



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Product Folder (1/2)



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Product Folder (2/2)

- Best Practices Paper (Partnering)
- Software CMM Paper
- Software Review Job Aid
- Video Order Form

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Software Grand Design (SGD)

- **Started July 1996**
- **Charter Objectives**
 1. Software integration into AIR processes
 2. Functional roles & responsibilities
 3. Knowledge/Skills/Abilities
 4. Training
 5. Short-comings
- **Developed Vision**
 - Teaming of engineers and inspectors
 - Upfront agreements between FAA & industry
 - Policy & Training



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SGD Implementation



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Training

- **Software Fundamentals**
- **Software Review Job Aid & Video**
- **Software Procedures Course**
- **Software Policy Video**
- **Software Standardization Conference**
- **Software Break-out at Avionics Conference**





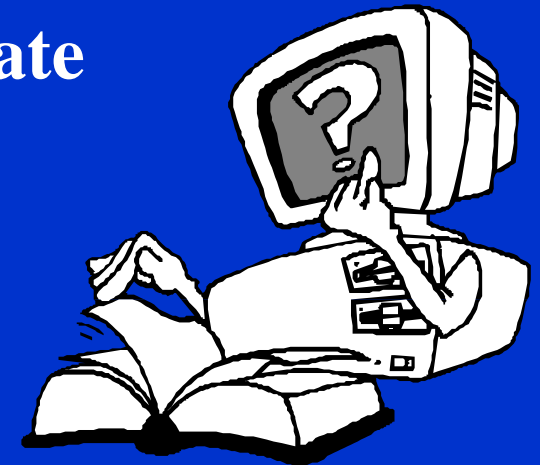
Level of FAA Involvement

- **Develop model and criteria to determine level of involvement in software aspects of certification**
 - Examples of criteria: Company experience with certification, company experience with DO-178B, designee support, company service experience, etc.
 - High/Medium/Low --> Level of FAA Involvement
- **Report completed March 1999**
- **To be implemented into FAA policy**

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Policy & Guidance Plan

- Completed Policy & Guidance Plan - June, 1998
- List of Policy & Guidance Needing Modification or Creation
- Prioritization/Level of Difficulty
- Recommended Process Owner (AIR-100 or -200)
- Recommended Target Completion Date
- Coordinating with CAST
- Coordinating with SC-190/WG-52
- Coordinating with Industry



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Policy & Guidance Completed

<u>POLICY</u>	<u>Completion DATE</u>
Field Loadable SW	11/98
PMA for Field Loadable SW	2/99
Legacy Systems	12/98
Software Review	3/99
User Modifiable SW	4/99
Previously Developed Software	3/99
Tool Qualification	4/99

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Policy & Guidance In Work

<u>POLICY</u>	<u>Target Complete DATE</u>
Minor/Major	7/99
Roles & Resp	9/99
FAA Involvement	9/99
Reuse of SW Life Cycle Data	12/99
ACSEP	12/99?
Designee Management	9/00
Software Conformity	6/00
Software In Production	?

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Policy & Guidance Planning

POLICY

Target Complete DATE

Source-to-Object Traceability

TBD

Alternate Means Assessment

TBD

Software Order

TBD

SSAC Support

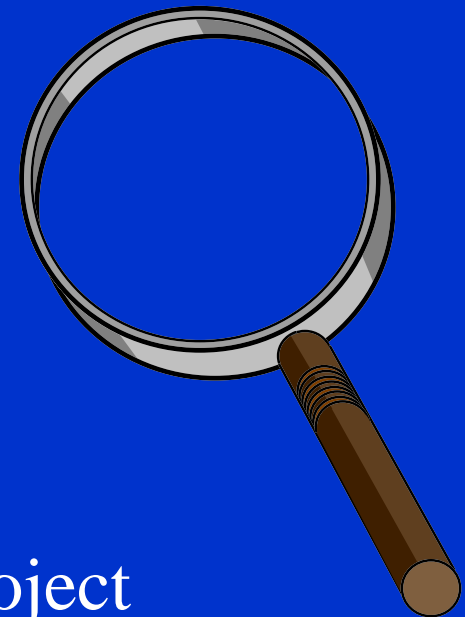


- AIR-130 Partnering with AIO in SSAC
- Proactively Addressing Issues
 - Fast Track Activities
 - Policy and Training Activities
 - Workshop III Break-out Activities
- Addressing SSAC Recommendations

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Research Initiatives

- AIR-130 Flight Critical Digital Systems Program
- Striving to Research Issues to Support Policy and Training
 - MCDC Research
 - COTS Research
 - Software Service History
 - Object-Oriented Research
 - Complex Electronic Hardware Project



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RTCA Activities

- RTCA SC-190: DO-178B Clarification

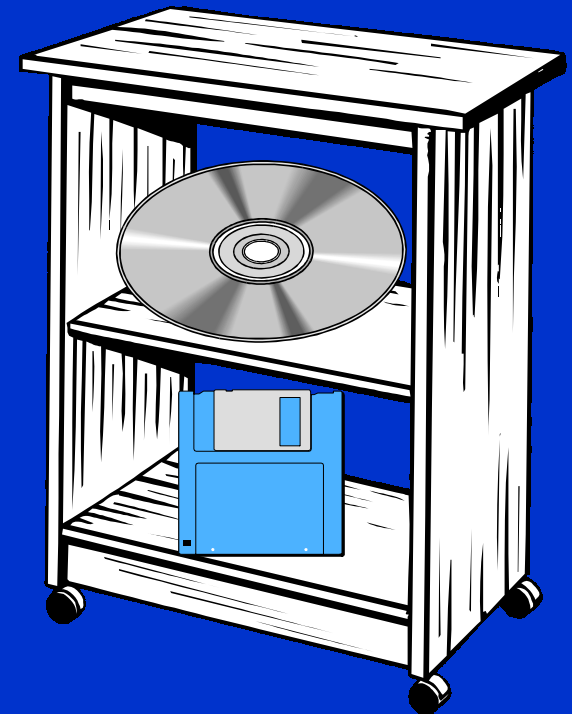
- Errata
- FAQs
- Discussion Papers
- Annual Report



- RTCA SC-182: Avionics Computer Resource
- RTCA SC-180: Complex Electronic Hardware
- RTCA SC-189: Operational Safety Assessment

ReUsable Software Activities

- Reuse of Software Life Cycle Data Policy
- Technical ReUsable Software Team (TRUST)
 - Formed to Support Comm Data Link
 - ReUse of a Software Package for CPDLC
- Avionics Computer Resource Activity





Certification Authorities Software Team (CAST)

- FAA, JAA, Transport Canada Software Specialists
- Meet 4X Per Year
- Support Industry Committees
- Address Certification Issues Related To Software
- Coordinating Positions & Policy



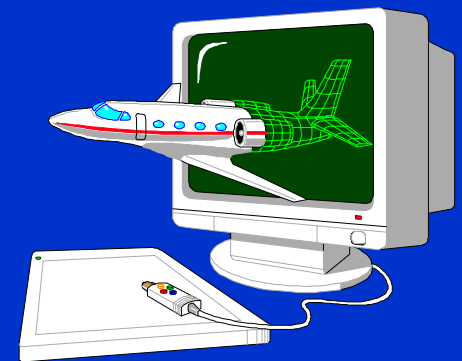
Software Web-Site

Software Home:

www.faa.gov/avr/air/air100/sware/sware.htm

AIR-100 Home:

www.faa.gov/avr/air/air100/100home.htm





Summary

- Striving To Meet Industry's Needs
- Striving To Be Proactive
- Planning To Work With AIO and Task Force 4 Follow-On To Address SSAC Recommendations